



# Instruction Manual Spring Tester



PROFESSIONAL MEASURING

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ISF-S10



ISF-S500



ISF-S1000

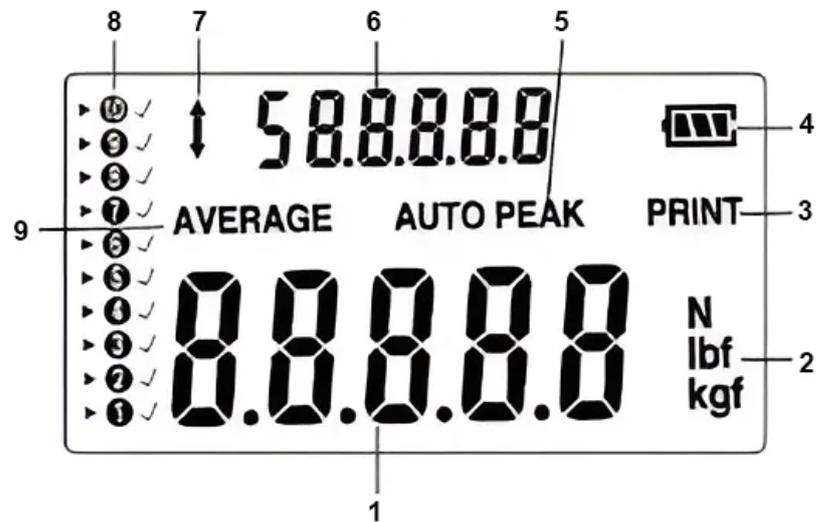
- Peak hold and automatic release function
- Set upper and lower limits, red and green indicator and buzzer alarm
- Automatic conversion of three units: N, kgf, lbf
- Built in printer
- Automatic power off

# 1 Working conditions

From 10°C to 30°C; humidity from 15% to 80%

## 2 Operation

### 2.1 Indicator



(1) Measurement result

(2) The units of the displayed measurement result

(3) PEAK indicator informs that „Peak-Hold" mode is active.

AUTO PEAK indicator informs that the displayed peak value shall be kept on the display for a definite period of time (see item 2.4)

(4) Force operation direction indicator

(5) Memory cells load

(6) Average or single peak value

### 2.2 Operation buttons

ON/OFF: 

Switch On/Off button (pressing the button for ca. 1 s)

UNIT:  Measuring units

- Pressing the button: selection between N, kg and lb units

ZERO:  Zeroing

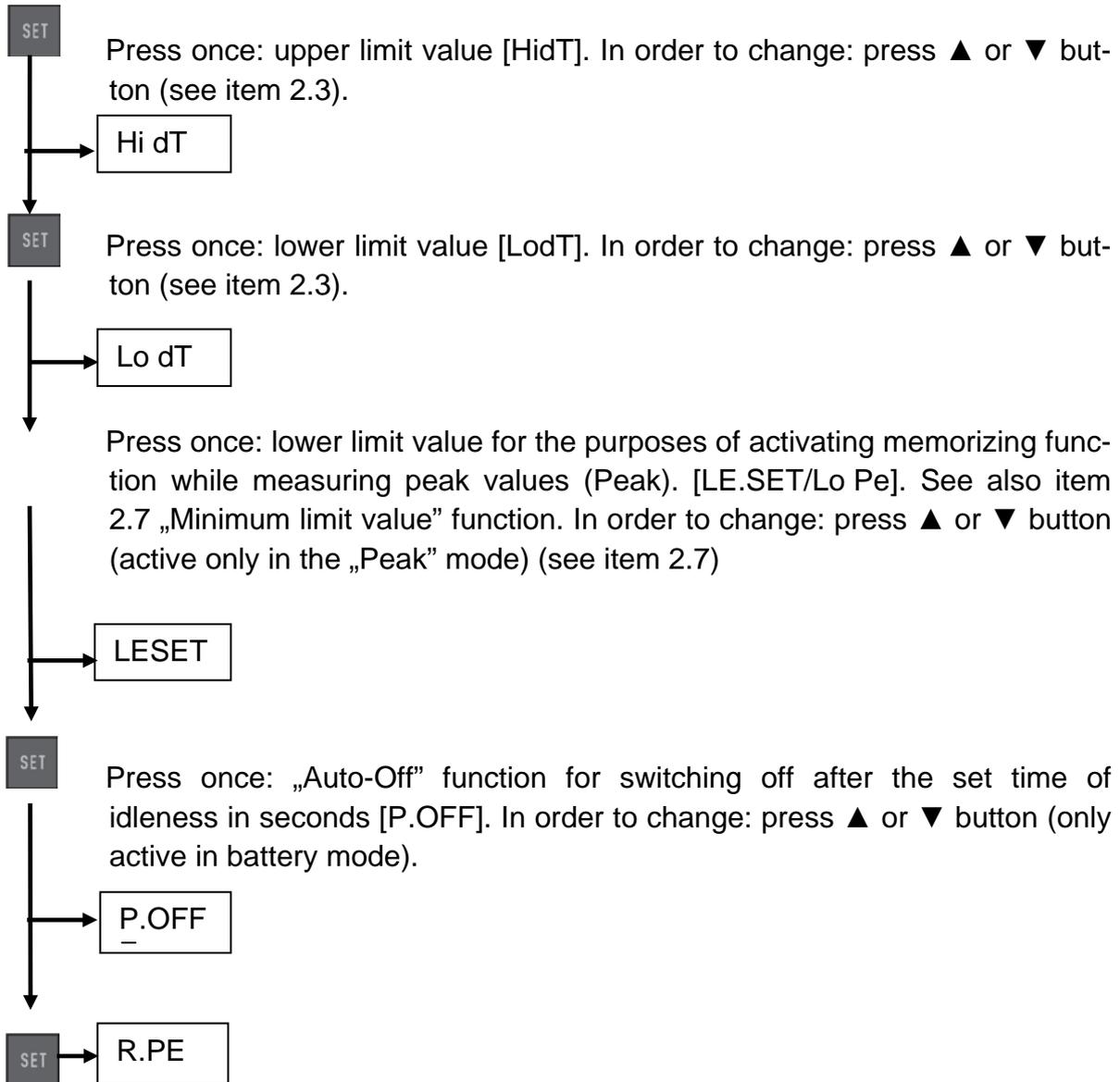
Load with three functions:

- Indication zeroing (tare function)

- Peak value zeroing (Peak)

- memorizing the setting (in the SET mode)

**SET:** 



**PEAK:** (peak value) 

Loading with three functions:

- Continuous measurement
- „Peak” function (registration of peak values)
- „Auto-Peak” function as „Peak” function, however without „Minimum limit value” function (see item 2.6)

**MEMORY:** (memorizing function) 

The place of recording the peak values in order to calculate the average value of the results of measurements (see item "Recording").

## CANCELLING FUNCTION:



Related to memorized values (only in „Memory” mode)

## PRINT: (printing function)



Entering memory values to the computer or printer (see item 7)

### 2.3 "Right / Wrong" limit values indicator

- ▲ HI increase above the upper limit value (the red LED is turned on)
- ▣ OK Measuring value within the GOOD range (the green LED is turned on)
- ▼ LO decrease below the lower limit value (the red LED is turned on)

One upper and one lower limit value is programmed. The measurement result is compared in the measuring device with the limit values and the comparison result is presented by means of red or green LEDs and a sound signal.

Setting of limit values, see item "Press buttons" in the SET menu.

### 2.4 Single measurement („Track” mode)

Indication of present acting force and its direction (arrow).

Zeroing by means of pressing Zero button 

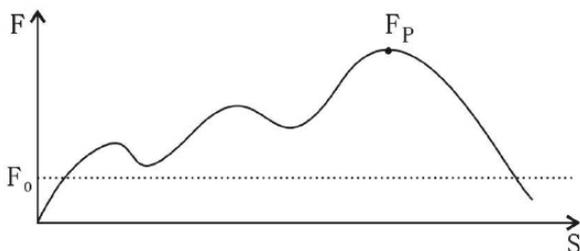
### 2.5 „Peak-Hold” function („Peak” mode)

Switching by means of pressing Peak button 

### 2.6 „Auto-Peak-Hold” mode („Auto-Peak” mode)

Switching by means of pressing Peak button 

### 2.7 Function „Minimum limit value” for the activation of recording of measuring values



The function is used in measurements during which undesired initial peak values „Pre-Peak” are present, which are located beyond the peak value searched for ( $F_P$ ). The set limit value ( $F_0$ ) prevents from recording „Pre-Peak” values by the measuring device.

„Minimum limit value” function is available only in „Peak” mode.

Setting of „Minimum limit value” function, see item "Press buttons" in the SET menu.

## **2.8 Recording of peak values and calculation of average value based on max. 10 peak values**

- Recording of peak values in the measuring device
- Activation of „AUTO PEAK” function by means of PEAK button.
- From now on, all peak values are automatically sent to the device memory (from the 11<sup>th</sup> value, the oldest entry shall be automatically overwritten).
- The given peak values can be called out by means of pressing navigation buttons (indicated in the top segment of the display).
- The average value can be called out by means of pressing MEMORY button (it is then visible in the top segment of the display).
- Cancelling of the memory contents with the use of ▼ button in AVERAGE mode.

## **2.9 RESET button**

It is located on the rights side of the housing.

It is used for restarting the device in the event of faulty operation. The values saved in the memory and settings will be cancelled.

## **3 Thread of fine setscrew**

The thread of the fine setscrew is the M6 thread conforming to DIN standard, the thread pitch also conforms to DIN standard.

It is ca. 1 mm per a rotation of the knurled nut.

## **4 Printing out or sending information to the computer**

There are two photos below:

The first photo shows a closed printer paperroll holder located at the side of the spring tester. The paper section with the results of the measurements printed out is visible outside. While printing, it is led from the printer paper roll holder through the narrow leading gap. On the rights side of the holder there is a small button, which has to be pressed, in order to open the holder when, e.g. it is necessary to replace the paper roll with a new one.



The next photo shows the open paper holder. One can see the way of placing the paper roll into the holder in order to see the printouts.

To close the paper roll holder, while closing it, it is necessary to push and hold the button on the right side. A small section of paper shall be protruding



It shall allow for obtaining the print-out with all necessary information:

Title	SD 500N100 TEST REPORT
Data for memo	DATE: -----
Number	NO:
Unit	UNIT:N
Upper Limit	HIDT:280.0
Lower Limit	LODT:260.0
Minimum Captured Value	LE.SET:10.0
Measuring Value/Data + is over upper limit, - is lower than lower limit, Ok is the eligible.	01 250.2 -
	02 278.3 ok
	03 250.5 -
	04 285.5 ok
	05 256.8 ok
	06 270.8 ok
	07 266.6 ok
	08 275.2 ok
	09 269.8 ok
	10 286.5 +
Max. Value	MAX:286.5
Min. Value	MIN:250.2
Average Value	AVERAGE:269.0

## 5 Warning guidelines

Improper measurements of the force may lead to serious body injuries and damages of goods, this is why there shall be carried out only by trained and experienced personnel.

It is especially important to avoid acting on the purchased measuring device with the forces exceeding the device maximum load (*Max*) and not to act on the device with the force transducers which are situated non-axially.

### **Inappropriate use**

#### **Overload**

One shall absolutely avoid loads, which exceed 150% of the measuring range deducting the already present tare load. It may lead to damaging of the measuring device (the danger of breaking!).

#### **Attention:**

Never use the measuring device in the explosion hazard zones. The serial performance is not the anti-explosion performance.

It is not permitted to conduct any structural changes in the spring tester. This may lead to faulty results of measurement, violation of technical safety conditions or destruction of the measuring device.

The device may be used only in accordance with the guidelines described.

Other scopes of use/areas of application require written consent of INSIZE

#### **Guarantee**

The guarantee expires if:

- our guidelines referred to in the user's manual are not observed;
- the spring tester is used in non-conformance with the applications described;
- the equipment has been mechanically damaged or damaged as a result of media, liquid;
- natural wear takes place;
- the electric system was set in an incorrect manner or if the system was not proper;
- the measuring mechanism was overloaded.

#### **Inspection of measuring and testing equipment**

In terms of the quality assurance system, it is necessary to check the technical measuring properties of the measuring device and possibly available calibration weight in regular time intervals. In order to do so, a responsible user shall determine the applicable cycle, as well as type and scope of the inspection.

Information concerning the inspection of measurement devices as well as necessary calibration weights are available at the homepage of INSIZE ([www.INSIZE.co.id](http://www.INSIZE.co.id))

#### **Observance of guidelines referred to the instruction manual**

Before starting the device, it is necessary to read the instruction manual, even if you are already experienced in working with the measuring devices of INSIZE.

#### **Personnel training**

The device may be operated and maintained only by the trained employees.